



## SUPPLEMENTARY EUROPEAN SEARCH REPORT

Application number:  
EP 20 83 73 93

**Classification of the application (IPC):**  
G05D 1/02, B25J 9/16, B25J 9/00, B25J 13/08, B25J 19/02, B25J 11/00

**Technical fields searched (IPC):**  
G05D

| DOCUMENTS CONSIDERED TO BE RELEVANT |  |                   |
|-------------------------------------|--|-------------------|
| Category                            | Citation of document with indication, where appropriate, of relevant passages  | Relevant to claim |
| X                                   | WO 2017173553 A1 (A&K ROBOTICS INC [CA])<br>12 October 2017 (2017-10-12)<br>* paragraph [0055] - paragraph [0086] *        | 1-15              |
| A                                   | US 2016005229 A1 (LEE SHIN-JUN [KR] ET AL)<br>07 January 2016 (2016-01-07)<br>* paragraph [0110] - paragraph [0435] *      | 1-15              |
| A                                   | US 2019086539 A1 (SHIN KYUNG CHUL [KR] ET AL)<br>21 March 2019 (2019-03-21)<br>* paragraph [0118] - paragraph [0252] *     | 1-15              |
| A                                   | KR 101427186 B1 (UNIV KONKUK IND COOP CORP [KR])<br>07 August 2014 (2014-08-07)<br>* paragraph [0042] - paragraph [0101] * | 1-15              |

The supplementary search report has been based on the last set of claims valid and available at the start of the search.

|                              |   |                           |
|------------------------------|---|---------------------------|
| Place of search<br>The Hague | Date of completion of the search<br>03 April 2023 | Examiner<br>Coda, Ruggero |
|------------------------------|---|---------------------------|

### CATEGORY OF CITED DOCUMENTS

|   |  |
|---|--|
| X: particularly relevant if taken alone   | P: intermediate document   |
| Y: particularly relevant if combined with another document of the same category | T: theory or principle underlying the invention                        |
| A: technological background   | E: earlier patent document, but published on, or after the filing date |
| O: non-written disclosure   | D: document cited in the application                                   |
| & : member of the same patent family, corresponding document                    | L: document cited for other reasons                                    |

Disclaimer: this document has been automatically generated using data structured in accordance with WIPO standard ST.36 from the database of search reports of the European Patent Office. For technical reasons, its content and layout may differ from that of the original publication. Only the original published information is legally binding.



## ANNEX TO SUPPLEMENTARY EUROPEAN SEARCH REPORT

Application number:  
EP 20 83 73 93

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on 03-04-2023.  
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

| Patent document cited in search report | Publication date | Patent family member(s) | Publication date            |
|--|------------------|-------------------------|-----------------------------|
| WO2017173553                           | A1               | 12-10-2017              | CA 3020184 A1 12-10-2017    |
|  |                  |                         | EP 3439522 A1 13-02-2019    |
|  |                  |                         | JP 2019520953 A 25-07-2019  |
|  |                  |                         | US 2019179307 A1 13-06-2019 |
|  |                  |                         | US 2021011474 A1 14-01-2021 |
|  |                  |                         | WO 2017173553 A1 12-10-2017 |
| US 2016005229                          | A1               | 07-01-2016              | NONE                        |
| US 2019086539                          | A1               | 21-03-2019              | NONE                        |
| KR 101427186                           | B1               | 07-08-2014              | NONE                        |